

**Flood Control Project Maintenance
Levee Inspections**

Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2019

Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start		Rating **	M	Issue No.	6
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Flood Preparedness & Training				
DWR ID	DWR_RD0001_01_s _ 2013_6				
Comment Code					
Inspector Comment					
The LMA has not attended a flood fight training class in the past few years. They do have an emergency plan.					

No Photos

LM Start		Rating **	A	Issue No.	8
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Emergency Supplies & Equipment				
DWR ID	DWR_RD0001_01_s _ 2013_8				
Comment Code					
Inspector Comment					
The LMA has emergency supplies on-site.					

No Photos

LM Start		Rating **	A	Issue No.	9
LM End		Issue Type +	Ma	Location *	N/A
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Operations & Maintenance Manuals				
DWR ID	DWR_RD0001_01_s _ 2013_9				
Comment Code					
Inspector Comment					
The LMA has a copy of the O&M Manual available at the office.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	0.00	Rating **	A	Issue No.	13
LM End	1.14	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.822580 °	37.811714 °
				-121.375545 °	-121.384876 °
DWR ID	DWR_RD0001_01_f_2018_13				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					
The annual vegetation is well maintained.					

Photo 1 of 1 : SP_2019_RD0001_23_13_20190415_00025.jpg



View looking upstream landside at the well maintained annual vegetation, Spring 2019.

LM Start	0.00	Rating **	A	Issue No.	20	
LM End	1.14	Issue Type +	Ma	Location *	WS	
Category	Earthen Levee			GPS Latitude/Longitude		
				Start		End
Item	Vegetation			37.822585 °		37.811714 °
				-121.375532 °		-121.384876 °
DWR ID	DWR_RD0001_01_f_2018_20					
Comment Code						
V1 : Control annual grass and weeds on the levee slopes and easements.						
Inspector Comment						
The annual vegetation is well maintained.						

Photo 1 of 1 : SP_2019_RD0001_23_20_20190415_00026.jpg



View looking upstream waterside at the well maintained annual vegetation, Spring 2019.

LM Start	0.03	Rating **	C	Issue No.	16
LM End	0.03	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.822390 °	37.822390 °
				-121.376084 °	-121.376084 °
DWR ID	DWR_RD0001_01_s_2018_16				
Comment Code					
T1 : Trim trees to at least five feet above ground level.					
Inspector Comment					

No Photos

* Location		** Rating		+ Issue Type	
LS : Land Side	N/A : Not Applicable	A : Acceptable	N : Not Inspected/Rated	Ma : Maintenance Deficiency	
WS : Water Side		M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence	
CR : Crown		U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement	

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Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	0.15	Rating **	U	Issue No.	23
LM End	0.15	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.821610 °	37.821610 °
				-121.377962 °	-121.377962 °
DWR ID	DWR_RD0001_01_s_2019_23				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
A large rodent hole is located on the landside shoulder. It is approximately 3 ft. x 2 ft. and needs to be repaired. (Spring 2019)					

Photo 1 of 1 : SP_2019_RD0001_23_23_20190415_00027.jpg



View looking landside at large rodent hole on levee slope, Spring 2019.

LM Start	0.17	Rating **	C	Issue No.	12
LM End	0.17	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.821376 °	37.821376 °
				-121.378044 °	-121.378044 °
DWR ID	DWR_RD0001_01_s_2014_12				
Comment Code					
T5 : Tree stumps.					
Inspector Comment					
Stump has been removed in order to prevent possible seepage path along the roots, Spring 2019					

No Photos

LM Start	0.21	Rating **	M	Issue No.	18
LM End	0.21	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			37.820806 °	37.820806 °
				-121.378260 °	-121.378260 °
DWR ID	DWR_RD0001_01_s_2017_18				
Comment Code					
E2 : Schedule repair of erosion site prior to the next inspection.					
Inspector Comment					

Photo 1 of 1 : SP_2019_RD0001_23_18_20190313_00016.jpg



View of the erosion on the levee slope.

* Location		** Rating		+ Issue Type	
LS : Land Side	N/A : Not Applicable	A : Acceptable	N : Not Inspected/Rated	Ma : Maintenance Deficiency	
WS : Water Side		M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence	
CR : Crown		U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement	

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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	0.31	Rating **	M	Issue No.	11
LM End	0.33	Issue Type +	Ma	Location *	
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2017 Storm Damage			37.820300 °	37.820200 °
				-121.379500 °	-121.379800 °
DWR ID	DWR_RD0001_01_f _ 2017_11				
Comment Code					
Inspector Comment					
Levee Evaluation Comments					
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.					
Site ID No:496					
Site Designation:LMA-402					
Repair Type: Erosion					
Rating:Area of Concern					
Field Date:8/18/2017					
Notes: Start of outside bend. Minor toe erosion has displaced riprap.					

Photo 1 of 3 : LEVAL_SP_2019_496_4367.jpg



LM Start	0.31	Rating **	M	Issue No.	11 (cont)
LM End	0.33	Issue Type +	Ma	Location *	

Photo 2 of 3 : LEVAL_SP_2019_496_4371.jpg



* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	0.31	Rating **	M	Issue No.	11 (cont)	
LM End	0.33	Issue Type +	Ma	Location *		
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	2017 Storm Damage			37.820300 °		37.820200 °
				-121.379500 °		-121.379800 °
DWR ID	DWR_RD0001_01_f_2017_11					
Comment Code						
Inspector Comment						
Levee Evaluation Comments						
Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.						
Site ID No:496						
Site Designation:LMA-402						
Repair Type: Erosion						
Rating:Area of Concern						
Field Date:8/18/2017						
Notes: Start of outside bend. Minor toe erosion has displaced riprap.						

Photo 3 of 3 : LEVAL_SP_2019_496_4374.jpg



LM Start	0.42	Rating **	M	Issue No.	22
LM End	0.48	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			37.819162 °	37.818412 °
				-121.380438 °	-121.379993 °
DWR ID	DWR_RD0001_01_s_2019_22				
Comment Code					
V2 : Remove the wild growth other than native grasses from the levee slopes.					
Inspector Comment					
There is heavy vegetation between the landside toe and the concerte ditch which needs to be removed. Spring 2019					

Photo 1 of 1 : SP_2019_RD0001_23_22_20190415_00029.jpg



View of landside levee toe with heavy vegetation parallel to concrete lined ditch, spring 2019.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	0.44	Rating **	U	Issue No.	14
LM End	0.44	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.818898 °	37.818898 °
				-121.380332 °	-121.380332 °
DWR ID	DWR_RD0001_01_s_2016_14				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					
There is an active rodent den the size of a coyote or fox.					

Photo 1 of 1 : SP_2019_RD0001_23_14_20190313_00012.jpg



View of the large rodent hole on the landside levee slope.

LM Start	0.45	Rating **	U	Issue No.	10
LM End	0.45	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.818753 °	37.818753 °
				-121.380249 °	-121.380249 °
DWR ID	DWR_RD0001_01_s_2016_10				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Backfill the rodent hole and compact levee slope with acceptable levee fill.					

Photo 1 of 1 : SP_2019_RD0001_23_10_20190313_00006.jpg



View of the large rodent hole on the landside levee slope.

LM Start	0.51	Rating **	M	Issue No.	5
LM End	0.51	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			37.818003 °	37.818003 °
				-121.379845 °	-121.379845 °
DWR ID	DWR_RD0001_01_f_2015_5				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					
About a 1 ft. vertical cut is observed at the landside levee toe. Repair the landside levee toe per O&M standards.					

Photo 1 of 1 : SP_2019_RD0001_23_5_20190313_00004.jpg



View of the vertical cut at the landside levee toe.

* Location		** Rating		+ Issue Type	
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WS : Water Side		M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence	
CR : Crown		U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement	

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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	0.52	Rating **	M	Issue No.	7
LM End	0.52	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Erosion / Bank Caving			37.817825 °	37.817825 °
				-121.379811 °	-121.379811 °
DWR ID	DWR_RD0001_01_s_2016_7				
Comment Code					
E2 : Schedule repair of erosion site prior to the next inspection.					
Inspector Comment					

Photo 1 of 1 : SP_2019_RD0001_23_7_20190313_00005.jpg



View of the erosion on the landside levee slope.

LM Start	0.67	Rating **	C	Issue No.	15
LM End	0.67	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.817047 °	37.817047 °
				-121.382342 °	-121.382342 °
DWR ID	DWR_RD0001_01_f_2016_15				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					
Burrow entrance is about 18 inches by 10 inches.					

No Photos

LM Start	0.76	Rating **	U	Issue No.	4
LM End	0.76	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			37.815881 °	37.815881 °
				-121.382704 °	-121.382704 °
DWR ID	DWR_RD0001_01_f_2015_4				
Comment Code					
A1 : Exterminate rodents and backfill and compact or grout burrows.					
Inspector Comment					
A large burrow is in the landside levee slope. It could be a possible fox den. Cobwebs are visible in the hole. Fall 2016.					

Photo 1 of 1 : SP_2019_RD0001_23_4_20190313_00003.jpg



View of a large rodent hole on the landside levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain			

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Unit No. 01 Old River	Right	1.14	04/04/2019 04/04/2019	Alberto De Leon

LM Start	1.08	Rating **	M	Issue No.	3
LM End	1.08	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			37.812023 °	37.812023 °
				-121.383961 °	-121.383961 °
DWR ID	DWR_RD0001_01_s_2016_3				
Comment Code					
S3 : Repair the levee slope damaged by vehicle traffic and prevent access where possible.					
Inspector Comment					
Repair slope damaged caused by vehicle traffic by placing and compacting acceptable levee material.					

Photo 1 of 2 : SP_2019_RD0001_23_3_20190313_00001.jpg



View of the landside slope damaged by farm equipment.

LM Start	1.08	Rating **	M	Issue No.	3 (cont)
LM End	1.08	Issue Type +	Ma	Location *	LS

Photo 2 of 2 : SP_2019_RD0001_23_3_20190313_00002.jpg



View of the ruts on the levee slope overgrown with vegetation.

LM Start	1.13	Rating **	M	Issue No.	19
LM End	1.13	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			37.811714 °	37.811714 °
				-121.384876 °	-121.384876 °
DWR ID	DWR_RD0001_01_s_2018_19				
Comment Code					
T1 : Trim trees to at least five feet above ground level.					
Inspector Comment					

Photo 1 of 1 : SP_2019_RD0001_23_19_20190313_00017.jpg



Looking west at untrimmed tree at landward toe. (Spring 2018)

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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